

IFCA NEWS

Official Magazine of Indian Flexible Packaging And Folding Carton Manufacturers Association

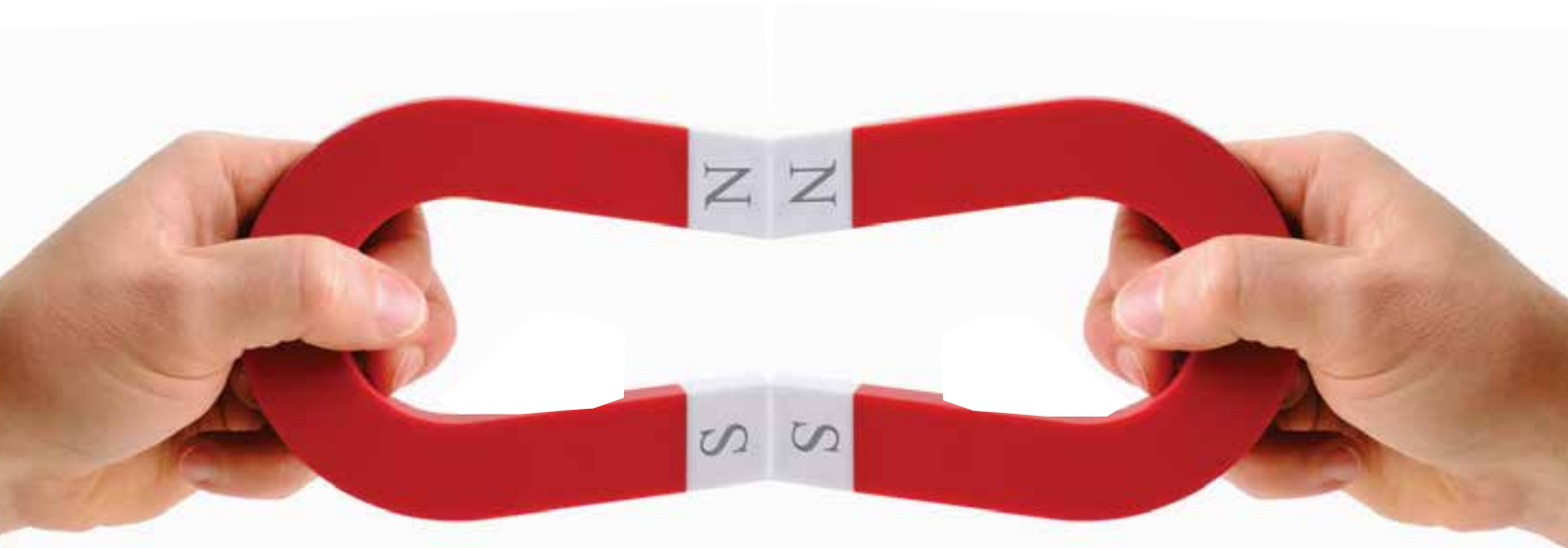
Happy Diwali



Inside:

- Defect Detection for Narrow Web Application
- Indian Packaging Market to Reach \$ 73 Billion By 2020
- Growing Processed Food Sector Gives Impetus to Packaging Industry
- Fostering Food Safety





OUR LAMINATING ADHESIVES STICK ANYTHING

We never see difficult jobs, only interesting challenges. As a result, we have created a wide range of adhesives for every flexible packaging need – made to the most exacting specifications and backed by an advanced quality control lab. We can develop a customized solution just for you and our technical personnel ensure smooth commissioning of the product at your plant. The right adhesive delivered where you want it – exactly when you want it. **It's Brilliant.**



State-of-the-art plant at Ambernath



Research & development lab



Rigorous quality control



Warehousing and shipping



Wide range of adhesives for flexible packaging





Vol. 8, Issue No. 2, July - September 2016

Editorial

India's rising urban population has created a new demand for convenience in food and packaging. According to reports, India will be the world's second fastest growing market for dairy products in 2018.

Dairy products in convenient packaging are getting more popular among India's rising urban population. In 2013 there were 378 million living in India's big cities such as Mumbai, Delhi, Bangalore and Hyderabad, and this number is growing in thousands every single day. The cities offer higher salaries, but also very long working hours. This has meant significant growth for packaged food that is convenient to use by busy consumers. Dairy products in particular, have seen a big jump in popularity: The Indian dairy food market is forecast to witness strong sales growth over the next couple of years to reach a value of INR 743 billion in 2018. This will make India the second fastest growing dairy market in the world in terms of volume consumption, after Brazil.

There will also be an increased demand for snack products, particularly cheese and yogurt, as consumers' busy lives cause them to skip meals. "Dairy snacks that offer an energy boost, such as yogurt enriched with extra calcium and protein, will be particularly in demand as tired, overworked consumers look for reviving options."

Flavoured milk and milkshakes are also set to become more popular, presenting an everyday treat option with no extra hassles, such as the need to add powder or concentrates to create a tasty drink. Increased availability of re-sealable plastic bottles and lightweight cartons will help to meet the demand for milk products that can be consumed outside of the home and on-the-go.

"The growth of service sector companies in India's cities will continue to drive consumers to migrate from villages, towns, and smaller cities in search of jobs. Moreover, infrastructure development in urban areas will help the distribution of dairy products, leading to a diversification of packaged dairy options available."

The global personal care packaging market is expected to reach \$55.7bn in 2017 and develop dynamically over the forecast period, driven by emerging economies. Furthermore, the personal care packaging market will be driven by a growth in sustainable packaging, a higher demand by males for personal care products, customised applications that match customers' values and identity, a higher expenditure by ageing populations, greater consumption by millennials, and more demand for premium products

The growth of the food processing and personal care industries also calls for packaging material development of the highest level. This gives us immense opportunities to prepare for meeting the new challenges.

Let us get ready to meet these challenges with machinery & material.

The International PackTech 2016 with concurrent Drink Technology & FOODPEX exhibition after about 45 days will attract lots of industry visitors. This will be the best forum to showcase new developments and show the country that IFCA Members are ready to meet the challenges ahead.

IFCA wishes everyone a VERY HAPPY DIWALI and PROSPEROUS NEW YEAR.

Venu Ayyar
Editor



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610, Swastik Disa Corporate Park
L.B.S. Marg, Ghatkopar (W), Mumbai 400 086
Tel: +91 22 25003334
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Website: www.ifca.net.in



Defect Detection for Narrow Web application

Quality assurance for Narrow Web application:

Narrow Web or Label printing in India is a challenging, competitive and a dynamic industry.

This industry is constantly growing at the rate of 15-17% p.a. The industry expansion is happening at

3 levels, firstly the existing players are developing and advancing their infrastructure, secondly there are some existing offset printers who are turning into label printers and thirdly new entrants in the industry.

As the industry is growing, the competition in the market is also increasing simultaneously. To

generate maximum profits and/or retain customers, every converter or printer strives to achieve a perfect balance between optimum utilisation of the resources and improving quality of the products and label industry is no exception. With the help of latest technology label printers are trying to achieve this equilibrium. Hence using top quality assurance systems are equally important along with the top quality printing presses.

Quality Assurance systems and its importance in Label Industry:

Like many other large industries, the label industry too is energy and chemical intensive. But it also consumes huge amounts of water, paper, ink, adhesive and lots of other raw materials. Printers expect outstanding results in terms of quality, process and product safety. Short production cycles call for minimized set-up times hence the most suitable way to make the process perfect is to complete the jobs without wasting resources and time.

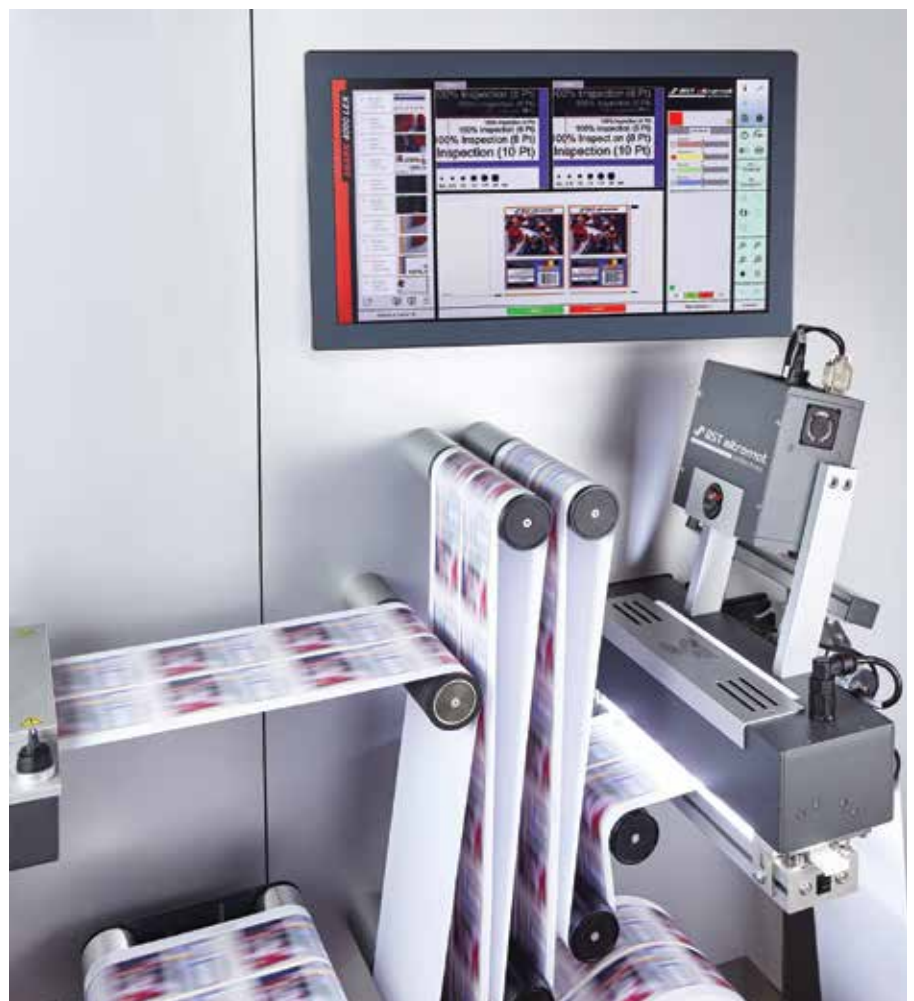
A lot of the wastage can certainly be avoided or reduced greatly during the processing or printing of the material in its various production stages. This will not only help printers to save on materials but also ensure to maintain the quality of the product. Efficiency requirements for the printing production continue to expand. Profitability can only be achieved by effectively reducing changeover times and minimizing waste. Here, Quality assurance systems play a great role for label printers.

What really matters: The aim is a flawless printing result. Only by avoiding defective products customers can be fully satisfied and economic production cycles are assured.

- **Web Guiding systems** ensure that the web does not deviate from its path while printing, lamination or being slit. This is a basic requirement in the label printing and if the substrate is not stable during the process then outcome could result in the entire roll being rejected.
- **Video web Inspection systems** ensure simple, fast and efficient monitoring of the print even at the highest web speeds. This helps operators to take corrective actions immediately during the process and any further loss/waste can be avoided then and there itself.
- **100% Print defect detection systems** Defects such as splashes, streaks or missing print can

have unpleasant consequences. A wrongly printed instruction leaflet included with a medicinal product and the possibility of a claim for damages is just one example. Complete print defect detection ensures perfect results.

- **Register Control System** Set-up times and waste are reduced considerably, resulting in an increase in the productivity of the printing press. Latest technology and real-time evaluations enable the register control systems to implement fast and reliable solutions to counter mis-registers.
- **Color Measurement System** One of the greatest challenges in printing is achieving the most



accurate color reproduction possible or accomplishing the desired color quality without wasting Ink.

For perfect print results, BST eltromat India, provides a complete portfolio for quality assurance systems and maximum productivity in narrow web applications. Our 100% print inspection systems SHARK LEX & TubeScan ensure complete monitoring of the process by reducing wastage and maintaining quality of the product.

About SHARK LEX: 100% Defect Detection. 0% Rejection. This is the strength of the SHARK LEX systems, which have been developed especially for a variety of uses in the narrow web and label printing industries. The SHARK LEX systems are characterised by their simple operation and reliably high productivity.

SHARK 4000 LEX and SHARK 1000 LEX, the 100% print defect detection systems for use on re-winders and narrow-web printing machines, stand out due to the well-engineered technology, extensive range of functions and comprehensive defect management software. You can choose from SHARK 1000LEX or SHARK 4000LEX and get the best for your requirements.

SHARK LEX is Simple, Exact & Quick! It comes with some exciting features like:

- Min. defect size: up to 0.024mm² @ max web speed: 200 meters / minute
- Web width: up to 600 mm (23")
- Camera Resolution: Colour: 4,000 pixels & Grayscale: 2000 or 6,000 pixels
- Substrates: Suitable for transparent, opaque and reflective materials.

- Other features: Flagger connection, PDF master check, Job Report, Quick job start, Label Counting, Missing Label Detection
- Optional features for Shark 4000LEX: Colour Monitoring, Bar-code Verification

Typical defects detected by SHARK LEX: Missing print, reverse type fill-in, splash, spots, mis-register, hickies and dirty print, web crease, wrinkles, colour variations, haze, scumming, smudges, streaks, hairs, die-cut variations, incorrect matrix removals.

BST eltromat India also has one more defect detection system in their portfolio, TubeScan Digital, 100% Defect Detection System for Narrow Web Application. LOW on Cost, High on Results!

TubeScan Digital, provides considerably higher process reliability with the base function. This system detects defects even during the printing stage and is highly recommended for all kind of narrow web applications such as, press, slitter and/or re-winder.

Salient features:

- 100% Web inspection, 100% of the time
- Min. defect size: Approx. 0.2 mm & Camera resolution up to 0.111 mm
- Detection of fine print defects, register defects & color variations
- Accurate counting of repeats, labels & missing labels for upto 20 lanes
- Job saving function for repeat orders
- Optional features: UV Illumi-

nation for monitoring security features & Job report

- Benefits of the TubeScan Digital on your Narrow Web Application:
- Cost-efficient, compact and space saving system
- Real time display of the full repeat on HD monitor
- Have multiple configurations to choose according to your requirements
- Suitable for transparent, reflective and opaque materials
- Very reliable and stable operation, even at high web speed
- Can be synchronized with a re-winder through a placement control module
- Recommended for all narrow web applications irrespective of cost, speed & resolution

Quality Assurance systems play critical role in generating more profits for printers by avoiding wastage, increasing productivity, saving in the material, time and resources, controlling the overall process and maintaining the desired quality of the output. For more details about our products, please send us mail on info@bsteltromat-india.com or call us +91-22-66860900 or please visit: www.bsteltromat-india.com.

To explore more, you may also visit us at upcoming LabelExpo India 2016, India Expo Centre - Greater Noida (Delhi NCR) from 17 – 20 Nov 2016 at Hall no. 5, Stand M-20.

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With Our **Quality** Impact “



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www.mandagini.com

Plot No. D 29/9, TTC Industrial Area, MIDC, Turbhe,
Navi Mumbai, Dist. Thane - 400 613, Maharashtra - India.

Phone: +91 22 27682456/57

Fax: +91 22 27682458

Mobile: +91 9322933457

E-Mail: sales@mandagini.com

126, Rama Naicken Street,
Royapuram, Chennai - 600 013, Tamilnadu India.

Phone: +91 44 3068 1366/2595 4660

Fax: +91 442596 2979

Mobile: +91 81444 06668

E-mail: mandagini@vsnl.net

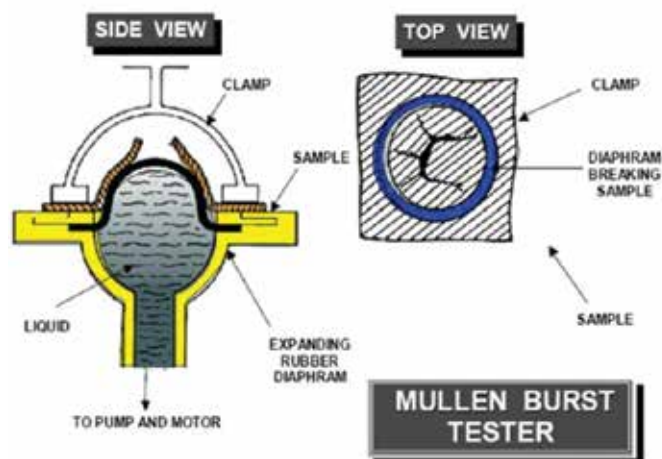
Developments in Corrugated Case Making Raw Material to Achieve New Parameters for Measuring Box Strength

Currently Bursting Strength is the most popular measure for the strength of a corrugated paper box in India.

Is Bursting Strength the best/most appropriate measure of the strength of a Corrugated Box ?

BS – Origin & Relevance

- Originated as a test for virgin Kraft paper used for bag and sack applications- relevant measure was rupture- appropriate for the application
- Could be successfully extended to corrugating raw materials as long as paper manufacturing technology and raw materials were homogenous – Softwood pulp, Single ply, light pressing etc.
- Major Factors contributing to the gradual obsolescence of the BS as a measure:
 - Research information on the nature of box failure and contributing factors



- New raw materials for paper making – waste paper and other non-conventional materials
- Evolution of paper making technology- particularly Forming and Wet Pressing
- Evolution of High Density/High Performance Liners

The Mechanism of Bursting; What does it measure?

Measures inter fiber bonding strength through failure under tensile forces

The Box handling Environment is harsh !

Any solutions for this ?



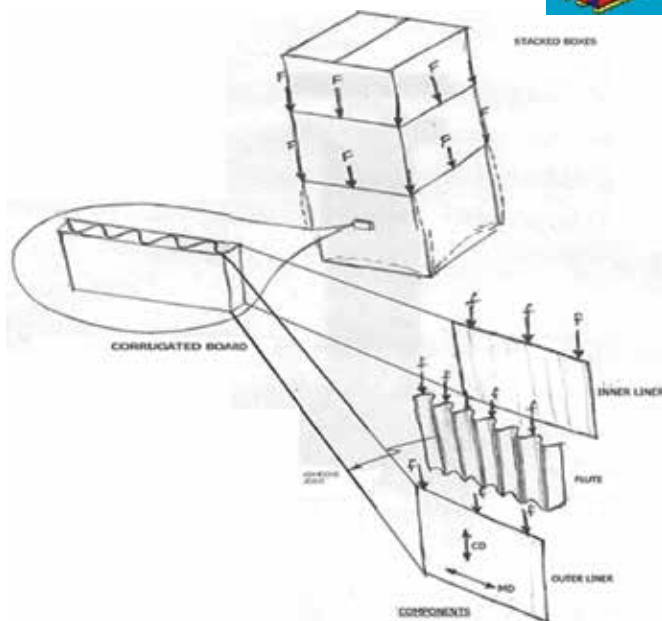
How does a box actually fail in protecting the goods being stored /transported ?



What should an appropriate measure look like?

The ability of the box to withstand top-down loading (Stacking strength) is critical.

What is the role of individual components of the board in imparting stacking strength ?



BCT/ECT – A Rational Measure of Box Quality

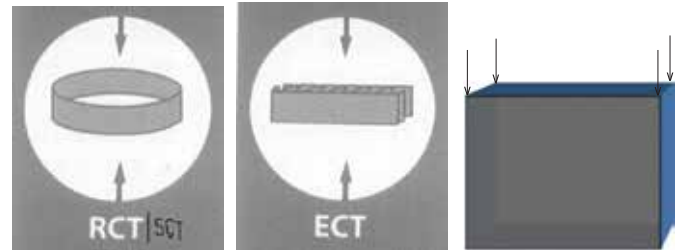
- This test measures an important box parameter that is relevant to the success of the box as a protective container in transit and storage.
- A ECT specification can be set to dovetail with tests for the raw material and the corrugated board
- Estimating ECT and Box Compression Strength
- The McKee Formula

$$BCT = 5.87 \times ECT \times \text{SQRT of (Caliper} \times \text{Perimeter)}$$

$$ECT = RCT-OL + RCT-IL + RCT (\text{Flute}) \times \text{Flute Take-up Factor}$$

RCT/SCT, ECT & BCT

- RCT/SCT – Tests the Raw Material
- ECT – Tests the efficiency of Board Making
- BCT – Tests the efficiency of Box Making



BCT or BS ?

What's appropriate ?

Others have walked this path before...

A look at an International Standard for Box Specification in a Highly developed Logistics Environment

The Uniform Freight Classification Rules USA incorporated the ECT as a certification parameter for box quality after extensive tests in 1992. In the European Union BCT was in use even earlier.

Uniform Freight Classification Rules (See table 1)

Uniform Freight Classification Rules-Recast (See table 2)

Indian Box Quality – Major Contributing Factors

- Strength and substance limitations in the indigenously available paper contribute substantially to the construction-cost-quality norms for corrugated boxes
- The semi-auto process of board manufacturing currently drives not only box quality but also costs for Box manufacturers.

Cost effective Raw Material for achieving the required ECT/BCT /FCT...

High Performance Liners & Fluting

- Developed to meet the high strength - low weight requirements for cost effective Box designs.
- New High RCT, low Substance (GSM) grade.
- Acceptance criteria
 - Ring Crush Test (RCT)
 - Short Span Compression Test (SCT)
 - Concora Medium Test (CMT)

Table 1. Uniform Freight Classification Rules USA - Rule 41

3 Ply Boxes		A Max Wt. Box and Contents lbs.	B Max outside dimensions summed inches	C Minimum Combined weight of facings in lbs./msft	D Minimum Bursting Strength lbs/sq.in.	E Minimum Edge Crush Test in lbs/in.
Single Wall	SW 1	20	40	52	125	23
	SW 2	35	50	66	150	26
	SW 3	50	60	75	175	29
	SW 4	65	75	84	200	32
	SW 5	80	85	111	250	40
	SW 6	95	95	138	275	44
	SW 7	120	105	180	350	55

5 Ply Boxes		Max Wt. Box and Contents lbs.	Max outside dimensions summed inches	Minimum Combined weight of facings in lbs./msft	Minimum Bursting Strength lbs/sq.in.	Minimum Edge Crush Test in lbs/in.
Double Wall	DW 1	80	85	92	200	42
	DW 2	100	95	110	275	48
	DW 3	120	105	126	350	51

Table 2. Standard Box Specifications - Uniform Freight Classification Rules USA - Rule 41

The Bursting Strength and Board GSM based Specification						The alternate Compression Strength based Specification			
Minimum Combined weight of facings g./sq.m.						Assume Medium of 150 gsm, RCT of 19 kgf/150 mm or 1.27 kgf/cm			
	gsm of each liner	BS of Board	BS of each Liner in Kg./sq.cm	BF of each Liner	ECT in kgf/cm	Liner RCT in kgf/150mm			
						A Flute	B Flute	C Flute	
SW 1	254	127	8.8	4.4	35	4.12	16	18	17
SW 2	323	161	10.6	5.3	33	4.65	20	22	21
SW 3	367	183	12.3	6.2	34	5.19	24	26	25
SW 4	411	205	14.1	7.0	34	5.73	28	30	29
SW 5	543	270	17.6	8.8	32	7.16	39	41	40
SW 6	675	337	19.4	9.7	29	7.87	44	46	45
SW 7	880	440	24.7	12.3	28	9.87	59	61	60

The alternate Compression Strength based Specification						The alternate Compression Strength based Specification			
Minimum Combined weight of facings g./sq.m.						Assume Medium of 150 gsm, RCT of 19 kgf/150 mm or 1.27 kgf/cm			
	gsm of each liner	BS of Board	BS of each Liner in Kg./sq.cm	BF of each Liner	ECT in kgf/cm	Liner RCT in kgf/150mm			
						A + B Flutes	A + B Flutes	B + C Flutes	
DW 1	450	150	14.1	4.7	31	7.52	19	19	20
DW 2	538	179	19.4	6.5	36	8.59	24	24	25
DW 3	616	205	24.7	8.2	40	9.13	27	27	28
DW 4	880	293	28.2	9.4	32	1.92	36	36	37
DW 5	1086	362	35.2	11.7	32	12.71	45	45	46
DW 6	1320	440	42.3	14.1	32	14.67	55	55	55

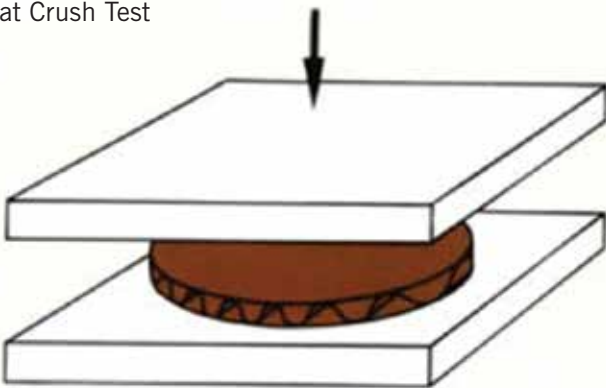
High Performance Liner (HPL) & High performance Fluting.

Development:

- Superior Fibre.
- Improved formation with appropriate fibre orientation.
- High intensity Web Pressing.
- Use of strength enhancing polymers.

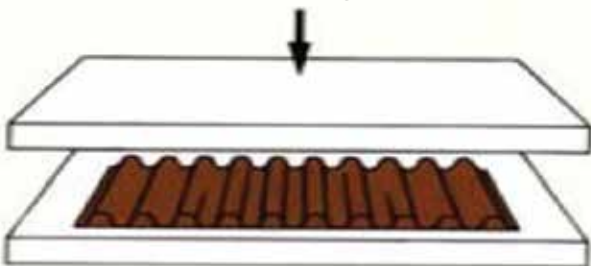
Other board parameters that more appropriately measure box quality

Flat Crush Test



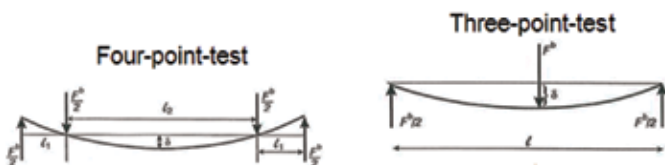
FCT – Flat Crush Test measures the resistance of the flutes to a crushing force applied perpendicular to the surface of the board under prescribed conditions.

Concora Medium Test for Fluting:



CMT – Concora Medium Test measures the crushing resistance of a laboratory-fluted strip of corrugating medium.

Bending Stiffness



Short Span Compression (STFI) Test more appropriate for light weight liners and fluting



Calculating ECT using values of paper component's SCT & RCT

The obtained predictive mathematical models are as follows:

$$ECT = 0.6982 (SCT_{L1} + SCT_{L2} + SCT_{L3} + \alpha_1 SCT_{F1} + \alpha_2 SCT_{F2}) \quad (12)$$

$$R^2_{SCT} = 0.9758$$

$$ECT = 1.028 (RCT_{L1} + RCT_{L2} + RCT_{L3} + \alpha_1 RCT_{F1} + \alpha_2 RCT_{F2}) \quad (13)$$

$$R^2_{RCT} = 0.9625$$

where the ECT, SCT and RCT are in kN/m, the correlating constant (k) is dimensionless and α is the profile and plant specific flute take up factor.

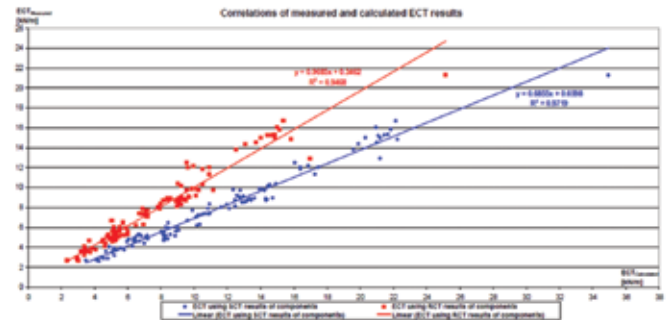
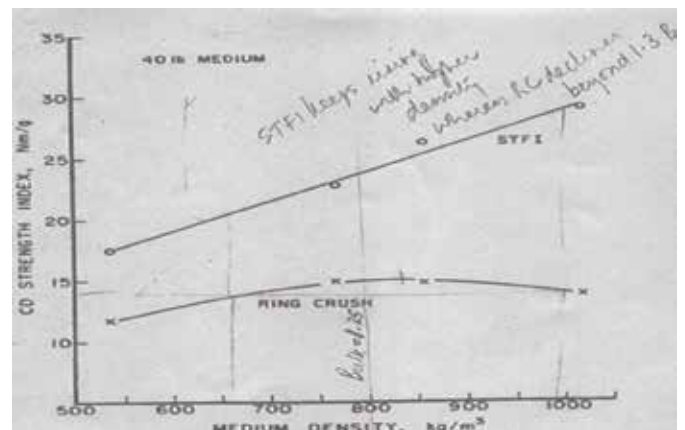


Figure 16. Calculated (using paper components' SCT and RCT results) vs. measured (using FEFCO No.8 method) ECT results.

SCT (STFI) Vs RCT as a test method



Consider a box that has a BS specification of 18 kg/cm²

	L	W	H
Box Dimension (mm)	600	400	300
Perimeter	2000		

Consider the following 2 options that meet the BS specification

	Top Liner	Fluting	Bottom Liner
Option 1:	250 gsm(28 BF)	150 gsm (20 BF)	250 gsm(28BF)
Option 2:	400 gsm(40 BF)	120 gsm (16 BF)	120 gsm (16 BF)

Also consider a 3rd option that does not meet the BS specification

	Top Liner	Fluting	Bottom Liner
Option 3:	220 gsm HPL-2.6kN/m	150 gsm HPF-1.7kN/m	220 gsm HPL-2.6kN/m

The Comparison...

	GSM	BCT	BS	BCT	Cost
Option 1:	803	372 kgf	149%	85%	118%
Option 2:	682	348 kgf	153%	79%	108%
Option 3:	658	438 kgf	100%	100%	100%

Option 3 which does not meet the BS criterion has the highest Compression Strength and the lowest Cost.

BS based specification



BCT based specification



Issues related to a broader usage of ECT/BCT based specification and testing...

- Availability of testing equipment- Most Customers' Labs are equipped with bursting strength testers only.
- Training of Lab Personnel for ECT/BCT testing.
- Lack of sample preparation equipment.
- Failure by specifiers and box designers to appreciate that the bursting strength test is a redundant test to ECT/BCT test.

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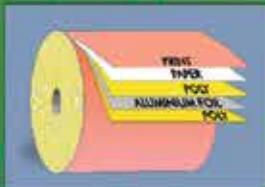


VCI Emitting System



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Indian Packaging Market to Reach \$ 73 Billion by 2020

Organised retail and boom in e-commerce to fuel growth of plastic packaging, as India is expected to be among the top ten packaging consumers in the world by 2016, says a FICCI-TSMG report

The packaging industry in India is expected to reach \$ 73 billion in 2020 from \$ 32 billion in FY 15, according to a report prepared by FICCI and Tata Strategic Management Group (TSMG) on plastic industry titled 'Plastic packaging: The sustainable choice'. In the coming years, Indian packaging industry is anticipated to register 18 percent annual growth rate, with the flexible packaging and rigid packaging expected to grow annually at 25 percent and 15 percent, respectively.

The Indian packaging industry constitutes about 4 percent of the global packaging industry. The per capita packaging consumption in India is quite low at 4.3 kgs, compared to countries like Germany and Taiwan where it is 42 kgs and 19 kgs respectively. However, organised retail and boom in e-commerce, which offer huge potential for future

growth of retailing, is giving a boost to the packaging sector.

Today, plastics are the material of choice in packaging for the sectors such as FMCG, food and beverages, pharmaceuticals etc. Globally, plastics comprise of 42 percent of packaging with the combination of rigid and flexible plastics in packaging. Plastics are used heavily for packaging due to innovative visual appeal for customer attraction and convenience. Additionally, they improve the hygiene quotient and shelf-life of the products especially in food and beverages segment.

"As plastics possess versatile properties it can help us do more with less. One such property is light weight. As plastics are light in weight, they have a high product to package ratio which results in lighter weighed end product. For example, only 1.5 pounds of flexible plastics can deliver approximately 60 pounds

of beverage; compared to three pounds of aluminium or 50 pounds of glass," said the FICCI-TSMG report.

Thus, plastic packaging enables in shipping more products with less packaging material. And also brings down the fuel consumption and the overall transportation cost.

Besides this, plastics can be reused and recycled. Plastics, which have low energy requirements during production, consume about 25 percent less energy in production compared to other alternatives. This results in lower emission of CO2 gas. Thus, when compared to glass or aluminium plastics results in lighter environmental footprint.

According to the FICCI-TSMG report, India is a growing market for plastics and consumes about 12.8 million metric tonnes (MMT) of plastics annually against global consumption of 285 MMT per year. The plastics and polymer consumption is growing at an average rate of 10 percent. About 30,000 processing units with 113,000 processing machines have created manufacturing capacity of 30 MMT per annum in India. This has been achieved with a 13 percent CAGR of processing capacity during last 5 years. The industry has invested \$5 billion in the machinery and it is expected to invest \$ 10 billion more for increasing the capacity during the next 5 years.

The per capita consumption of polymers in India during 2014-15 was just 10.5 kg as compared to 109 kg in USA, 45 kg in China and 32 kg in Brazil. "India is expected to be among the top ten packaging consumers in the world by 2016. The low level of per capita plastics consumption in India is indicative of the massive growth potential of the plastic industry. Given the rising consumerism and modern lifestyles, it is expected that per capita consumption will be doubled in the next five years," said the report.

Growing Processed Food Sector Gives Impetus to Packaging Industry

The plastic food packaging sector (worth over \$ 4 bn) accounts for lion's share of India's total plastic packaging market, currently valued at about \$ 7 bn, says Assocham-TechSci study



Food and beverage packaging market in India has grown to about \$ 16 billion as of 2015 from \$ 12 billion in 2010, registering a CAGR of over six per cent, according to an Assocham-TechSci Research study - titled 'Dynamics involved in multi-layered food packaging'.

"In wake of the increasing disposable incomes and growing number of nuclear families, market share of packaged food in processed food market is expected to marginally increase to about 29 per cent in 2016 from about 28 per cent in 2015," said Assocham in a press release.

With a size of over \$ 4 billion,

the plastic food packaging market currently accounts for lion's share of about 63 per cent in India's total plastic packaging market which is currently valued at about \$ 7 billion, highlighted the Assocham-TechSci Research study.

Market for multilayer plastic food packaging is currently estimated at about \$ 1 billion which is about 22 per cent of India's total plastic food packaging industry. However, in the total food and beverages packaging market, multilayer plastic food packaging accounts for over six per cent share in value terms.

"Growing usage of packaging material in various food service outlets

together with increasing demand for packaged beverage and expanding working class population has given impetus to food packaging industry in India," said D S Rawat, secretary general of Assocham while releasing the findings of the study.

In terms of share, metallic and other packaging material accounts for about half of India's overall food and beverages packaging market followed by printed cartons and rigid packaging (28 per cent) and flexible packaging material like food packaging laminates and packaging foils (24 per cent), highlighted the Assocham-TechSci Research study.



India: Food processing and packaging now have a dedicated platform From 2016 the two trade fairs International PackTech and drink technology India will be supplemented by FoodPex India **EXHIBITOR REGISTRATION NOW OPEN !!**

To keep up with developments on the Indian food and beverage market, the range of products and services at International PackTech India and drink technology India will be joined by a third event – the newly developed FoodPex India. It will focus on the processing and packaging of solid foods of all kinds. In the future the newly created trade fair trio will map the thematic areas of packaging and related processes, beverage technology and liquid food as well as food processing and packaging under one roof. The constellation of this unique range will enhance the attractiveness of the event even further and will set a clear signal on the Indian food and beverage market. PackTech India and drink technology India have already come to be seen as the most important platforms for these industries in India.

"The Indian market shows a clear interest in food processing and food packaging. This is why, in 2014, we and also Messe München were already presenting suitable products and solutions at the two trade fairs. It's a logical step to enhance this range by adding a dedicated platform under the name of FoodPex, a brand which we previously launched in China," says Bernd Jablonowski, Global Portfolio Director for Packaging and Processing at Messe Düsseldorf, the organisers of International PackTech India and of the new FoodPex India.

"Visitors to the trade fair trio will benefit from a new and even clearer structure with an unparalleled product and service line-up which is now available on the Indian subcontinent. Our unique expertise in the processing and bottling of drinks and liquid food will thus receive an ideal thematic enhancement," says Petra Westphal, Exhibition Group Director at Messe München GmbH, the organiser of drink technology India.

India as a growth market

India is a dynamic market with major potential in packaging and related processes, particularly in packaged food and beverages. Although per-capita consumption is still relatively low, figures from the market research institute Euromonitor have shown that the demand for processed and packaged food is set to rise by about 31 per cent by 2019. During the same period soft drinks sales are even expected to rise to more than twice their current level. India is already the world's number one in milk consumption, and its market for liquid milk products is developing very dynamically. This development is driven by social change and clear economic growth. Moreover, the resulting growth of the middle class has led to a greater demand for hygienically processed and packaged food and beverages. This is putting greater pressure on local manufacturers to invest in high-quality processing, packaging and bottling equipment, so that they can compete with imported products.

High level of visitor satisfaction

The organisers are expecting the trade fair trio to attract around **250 exhibitors (2015: 230)**. The available exhibition space will be approx. **14,000 square metres**. Last year's event already saw a **37-per-cent increase** in visitors, reaching an all-time high with **over 10,000 visitors** in all. More than 90 per cent of the relevant professionals – of whom far more than two thirds were entrepreneurs or senior management – awarded top marks to International PackTech India and drink technology India in 2014. The response was particularly positive to the broad spectrum that was on offer and also to the presence of numerous market leaders. The third edition of the two trade fairs confirmed their reputation as a business platform with specially tailored solutions for the Indian market. A similar increase in visitors' numbers is expected for 2016.

About International PackTech India, drink technology India and FoodPex India

The trade fair trio on the Indian subcontinent comprises International PackTech India, drink technology India and FoodPex India. It brings together the expertise of Messe Düsseldorf and Messe München as the organisers of their respective leading trade fairs in the packaging sector and the related processing industry – interpack (Messe Düsseldorf) and drinktec for the beverage and liquid food industry (Messe München). Like their parent trade fairs in Germany, the three events map the entire process chains in their industries, yet with the focus on the Indian market. From 2016 FoodPex India will be added to the existing trade fairs, International PackTech India (packaging, packaging materials/packaging means/packaging production, packaging technology and packaging printing) and drink technology India (processing and bottling of beverages and the entire liquid food chain, including all milk products, oils and fats). FoodPex India features solutions for the processing and packaging of food of all kind. **The trade fair trio will be held at the Bombay Convention & Exhibition Centre in Mumbai from 15 to 17 December 2016.** The conceptual sponsor of the three trade fairs is the German Machinery & Plant Manufacturers' Association (VDMA). Other partners of International PackTech India and FoodPex India are the Institute of Packaging Machinery Manufacturers of India (IPMMI) in Mumbai and the Indian Flexible Packaging & Folding Carton Manufacturers' Association (IFCA).

More information and to all exhibitor and visitor services:

www.packtech-india.com | www.foodpex-india.com | www.drinktechnology-india.com

For inquiries please be in touch:

Abhinav Kumar Singh, Project Manager

Messe Düsseldorf India Pvt. Ltd | 302-302A, 3rd Floor, Salcon Aurum, Plot No. 4, Jasola District Centre Near Apollo Hospital, Jasola, New Delhi – 110 025 | Board: +91 (0) 11 4855 0000
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Mr. Abhinav Kumar Singh
Project Manager
Tel: +91 (0)11 4855 0056
Fax: +91 (0)11 4855 0099
Email: SinghA@md-india.com
URL: www.md-india.com





Dr Mosongo Moukwa is director of technology at PolyOne, USA, and was recently an independent consultant based in Chapel Hill, USA, and vice president - technology at Asian Paints Ltd, Mumbai, India. He is a member of the American Chemical Society and Product Development Management Association

Economic report forecasts estimate that the demand for rigid plastic food and beverage packaging and containers will grow at a rate greater than 5 percent a year until the total market reaches \$ 5.4 billion in 2017. Flexible packaging is also on a growth path. Global demand for flexible packaging is growing at an annual rate of 3.4 percent and expected to hit \$ 248 billion by 2020. The food industry makes up 70 percent of the demand for flexible packaging. According to BCC Research, the global market for active and intelligent packaging for food and beverage is to grow to \$44.3 billion by 2017.

Active and intelligent food packaging have the potential to make significant contribution to satisfy emerging consumer's demands of health, convenience, sensory and connectivity. Here, we describe approaches that companies are implementing using plastic, which has become the packaging of choice for the food and beverage industry.

Smart Food Packaging Can Enhance Branding:

Intelligent packaging can leverage Internet of Things (IoT) and Big Data to establish a dynamic interaction with sensing devices on packaging : Dr Mosongo Moukwa

Active packaging

The trend towards more natural foods with fewer preservatives, additives and dyes calls for increasing oxygen sensitivity. Market players are developing new and innovative active packaging materials that can meet the growing demand from application industries. A package system is considered to be 'active' if it changes the condition of the package product to extend its shelf life or improve food safety or sensory properties, while maintaining the quality of the food.

German and French wine fillers are testing Shelfplus O2 from Albis Plastic GmbH, a three-layer low-density polyethylene and polypropylene films with oxygen-absorbing properties as inner bags for bag-in-box wine packaging. Excellent dispersion of an iron-based absorber makes it possible to produce layers just 20 µm (micrometer) thick. Initial results indicate increasing wine shelf life even with less added sulfur.

In Brazil, plastic milk bottles that use embedded silver nanoparticles to kill bacteria are being commercialised. The core of the technology consists of a coating ceramic particles made of silica with nanoparticles. Grade A pasteurised fresh whole milk packaged in those bottles can last for up to 15 days, as opposed to the usual seven.

Intelligent packaging

A package is considered 'intelli-

gent' if it has the ability to monitor the product, sense the environment inside or outside the package, and communicate with the consumers. The incorporation of colour changing plastics into food packaging materials is a method to alert consumers about the conditions inside a food package.

Time-temperature indicators plastics, such as Fresh Check, can facilitate the identification of products which are progressing towards spoilage, or which have lost their quality and wholesomeness. They can be affixed to a package as a self-adhesive device, and the colour darkens to indicate spoilage.

Another example is a colour-changing package developed by Smart Lid Systems, (Sydney, Australia). The smart lid is infused with a colour-changing additive, allowing it to change from a coffee bean brown to a bright red color when exposed to an increase in temperature. Such an interactive packaging can also improve product safety and security to detect counterfeit product or to counter shoplifting activity, such as Percept of PolyOne.

Scientists from the University of California at Berkeley and Taiwan's National Chiao Tung University have developed a wireless smart cap for milk bottles that can detect spoilage through a small electrical circuit in the cap. The electrical circuit can detect changes in electrical signal associated with an increased level of bacteria. It becomes easy to imagine

a scenario where one can use a cell phone to check the freshness of food right on the store shelf.

Leveraging Internet of Things

Consumers are becoming increasingly tech savvy and are demanding more from food and beverage. Intelligent packaging makes it possible to communicate with consumers through the bar or QR codes. It senses changes in the condition of the packaged food and in the environment, and transmits those changes

through media such as smart labeling that uses colour changes.

Intelligent packaging can leverage Internet of Things (IoT) and Big Data to establish a dynamic interaction with sensing devices on packaging such as NFC (near-field communication), RFID (radio-frequency identification), smart labels, and smart caps. These are established technologies that some companies already use to track goods in the supply chain. But, this time, it is possible to track the quality and safety of food products at various

points during their distribution and transportation. It is possible today to combine sensor information, supply chain, and Big Data analytics to track the quality of food from factory to store. Every step in the supply chain can be recorded.

The packaging industry needs to educate the consumer. Intelligent concepts that enable brand owners to interact with consumers are likely to become more significant in the future.

India's Food Packaging Industry Crosses \$50 Million Mark: Study

Clocking a compound-annual growth rate (CAGR) of around 16%, the packaged food market in India is expected to have crossed the \$51.5 million mark in 2015, said a joint study undertaken by the Associated Chambers of Commerce of India (Assocham).

“In wake of increasing disposable incomes and a growing number of nuclear families, the share of packaged food in the processed food market is expected to increase marginally to around 29% in 2016 from around 28% in 2015,” according to the study that was conducted by Assocham and a market research company, TechSci Research.

The value of food and beverage packaging market in India is estimated to have risen to around \$16 billion in 2015 from \$12 billion in 2010, besides registering a CAGR of over 6%.

The study, titled Dynamics involved in multi-layered food packaging, also found that food packaging, with a size of over \$4 billion had the biggest share in the plastic packag-

ing market, where it accounted for around 63% of the total share.

Market for multilayer plastic food packaging is currently estimated at about \$1 billion, which is about 22% of India's total plastic food packaging industry. However, in the food and beverages packaging market, multilayer plastic food packaging accounts for over 6% share in value terms.

“Growing usage of packaging material in various food service outlets together with increasing demand for packaged beverage and expanding working class population has given impetus to food packaging industry in India,” said Mr D.S. Rawat, secretary general of Assocham while releasing the findings of the study.

In terms of share, metallic and other packaging material accounts for about half of India's overall food and beverages packaging market, followed by printed cartons and rigid packaging (24%), and flexible packaging material (24%) that includes like food packaging laminates and packaging foils.

The value of food and beverage packaging market in India has risen to around \$16 bn in 2015 from \$12 bn in 2010

Cosmo Films Launches a BOPP Film for Cement Bag Protection

DELHI, Aug 16, 2016– Cosmo Films, a leading manufacturer of speciality BOPP films, today announced the launch of a special BOPP film that enhances moisture resistance of cement bags. This film is used for laminating block bottom cement bags which are made of woven PP material. The product is already in commercial use and finding traction with major cement brands.

Indian cement industry has been struggling with a sizeable spoilage of total cement packed due to moisture and associated lump formation. The special film launched by Cosmo, not only provides additional protection to the contents inside by adding moisture barrier, but also enhances the print quality of the printed material making it more appealing for the consumer. Being a 100% polyolefin structure, it is environment friendly and would further enhance the reusability of the bag.

Cosmo's polypropylene based film bonds really well with the woven PP fabric and, also takes micro-perforation/nano embossing well. The laminated bag has excellent heat seal & hot tack properties



and displays excellent machinability. Apart from the cement bags & other building materials, these laminated bags could be used to pack variety of staples such as rice, flour, sugar etc; pet foods; fertilizers and chemicals.

Commenting on the development, Mr Pankaj Poddar, CEO Cosmo Films said “India is world’s second largest cement producer after China with production estimates of approx 300 million tonnes per annum with production figures estimated to reach 407 million tonnes p.a by FY17. With only 15% of the cement being packed in block bottom bags, there is a huge potential in converting these bags into laminated ones and upgrading the traditional PP stitched bags as well. Laminated bags have already done well in Pakistan and Bangla-

desh and consumption is already on the rise in Indian market.”

About Cosmo Films Limited

Established in 1981, Cosmo Films Limited today is one of the global leaders and manufacturers of Bi-axially Oriented Polypropylene (BOPP) films used for packaging, labels and lamination applications. The company is the largest exporter of BOPP films from India and is also the largest producer of thermal lamination films in the world with plant cum distribution centres in India, Japan, Korea & the U.S along with global channel partners in more than fifty countries. For more information, visit www.cosmofilms.com or write to enquiry@cosmofilms.com.

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UFLEX LTD., Packaging Division, A-1, Sector 60, Noida 201301, Tel: 0120 6100121 , www.uflexltd.com



Atlas Looks Set to Celebrate Its 40th Anniversary and a Bumper Year at the K Show

Atlas Converting Equipment Ltd. (UK) will present its range of Primary & secondary slitter rewinders at the K Show in Düsseldorf, Germany from 19th – 26th October on Stand 3B91 in Hall 3.

2016 is looking to be another bumper year for Atlas Converting Equipment with orders significantly ahead of the previous year and with the scheduled delivery of three 10.5m primary slitter rewinders in 2016!

Established in 1976, the Atlas Converting brand was the pioneer of the slitting and rewinding and today, 40 years later remains one of the premium brands in the industry.

Specialising in the design and manufacture of primary and secondary slitter rewinders for a wide range of flexible materials including plain and metallized plastic film, labelstock, paper & board.

Being one of the first companies to develop slitting and rewinding

machines to handle unwind widths of over 5m Atlas quickly became the Industry leader in primary slitting and rewinding.

By continuing to push the boundaries of engineering and process control, modern Atlas slitter rewinders can accommodate 10.6m wide unwind rolls and process them at a staggering speeds, up to 1500 m/min (5000ft/min).

With its brands of Atlas & Titan, Atlas Converting Equipment Ltd. is one of the world's largest manufacturers of primary and secondary slitter rewinders for plastic films, label stock, laminates and other flexible materials. The company has to date installed more than 2.600 secondary Titan and 1000 Atlas primary slitter rewinders worldwide, with over 250 film slitters exceeding 6 metres (236 ins) in width.

Titan secondary slitters comprise of the small footprint ER610, the highly flexible SR800 and two models of the high productivity SR9

series, one a duplex slitter rewriter, the other a duplex turret machine allowing operators to get the machine up and running again in typically 30seconds from stop to start.

Stan Braycotton, Sales Director for Atlas Converting commented, "For 40 years we have developed equipment that meets the needs of our customers and supports their ever increasing business demands. This hard work and customer focus has paid great dividends with 2016 looking to be another great year for us, we have significantly grown our order book and will be delivering three 10.5m primary plus several secondary Slitter Rewinders this year"

Stan also commented, "We will be using the K-Show to celebrate our 40 years of slitting & rewinding innovation and welcome customers old and new as well as anyone else to join us in celebrating our anniversary and discussing any slitting and rewinding challenges they are facing."

**Increased automation
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Govt to Change Rules to Make Details on Packaged Foods to Be More Legible

Right now, the font size of the declaration is less than 1 mm, will be increased to 2 mm - 4 mm for than 200 gm / ml of food items

The Union government is planning to amend the 2011 commodities packaging rules to ensure the details on the packaged food items are more visible and readable and also wants to incorporate barcode-kind of system to protect consumers from spurious products.

The Consumer Affairs Ministry has held several round of discussions to amend the Legal Metrology (Packaged Commodities) Rules 2011 in the interest of consumers. Even the industry and public have demanded changes to the rules.

“Rule 7 specifies about the font size of the declaration but most companies do not follow strictly. In smaller packs, the font size is too small for consumers to read. So, we have decided to adopt the US standard on font size,” a senior Consumer Affairs Ministry official told PTI.

Right now, the font size of the declaration such as name, address, net commodity, date of manufacturing and retail price -- is less than 1 mm. “The US follows 1.6 mm size. But we are planning to keep 1.5 mm for a pack of 200 grams/ml.”

The font size for a packed food item containing more than 200 grams/ml up to 500 grams/ml would be increased from 2 mm to 4 mm and for above 500 grams/ml, the font size would be doubled to 8 mm, he said.

Besides, the ministry is considering introducing bar-code or any such mark to identify food products are made in India or other country to curb sale of fake food items in the country.

That apart, the ministry is considering increasing maximum quantity of packaged food items up to 50 kg/ litres from the existing 25 kg/litres.

“For smaller packs, consumers have to pay more. So, we are thinking of allowing some commodities like rice, atta and others to be packed up to 50 kg/litres. This will bring down the cost on consumers,” the official explained.

The ministry had last amended the rule in 2015.

Fostering Food Safety



Mr Jayachandran Nair, Steering Unit Head – Flexible Packaging (IMEA), Henkel.

Consumers' demands for healthy and safe products along with those of legislations and regulatory authorities have raised the importance of food safety significantly. Ideal food-safe packaging ensures full protection of the filled food substance against influences from outside and while taking care that there is no interaction between the packaging and filled food substance.

Flexible Packaging

Flexible packaging continues to grow in importance for packag-

ing food. In order to produce high quality flexible packaging materials, the adhesive used is a key factor. The film composition, the printing ink as well as the adhesive need to be aligned to deliver the required properties of modern flexible packaging.

At Henkel, we offer high-performance adhesive solutions for food packaging that help improving food safety and quality. Our Loctite Liofol product range of adhesives and coatings provides flexible packaging solutions for businesses ranging from food, medicines, medical

supplies, cosmetics to textile and technical lamination.





are economical systems for wet lamination of paper with film and foil

- Technomelt hotmelts

Coating Solutions

Flexible packaging has been the winner in the constant search to reduce packaging cost and material usage. Today, food and fast moving consumer goods companies are looking for new packaging types and designs that offer simplicity, sustainability, thickness reduction and cost savings without sacrificing on performance, convenience and sustainability.

To address this increased market demand, Henkel offers a range of coatings for the food and pharmaceutical industries. Our coating solutions support down gauging, layer reduction and increasing shelf life and food safety. These include:

- Loctite Liofol heatseal coatings are versatile solutions for peelable lids and packages, available in both solvent-based and water-based forms
- Loctite Liofol overprint varnishes are suitable for film and paper substrates, as they contribute towards protection or functionalization of outer layers

Adhesives Solutions

Our adhesive solutions cover a broad spectrum of requirements, from economic general -purpose packages to highest performance applications such as retortable or ovenable packaging. We offer a broad choice of chemistries to match all types of application equipment.

We offer a broad range of products, regardless of the substrate, including :

- Loctite Liofol solvent-based adhesive systems, which are an ideal choice for aggressive filling goods, high thermal stresses and for all other high-performance applications in food and non-food packaging
- Loctite Liofol solvent-free adhesive systems, which offer exceptional efficiency by providing an optimal combination of economic and sustainability benefits
- Loctite Liofol water-based dry

bond adhesive systems, which are the choice for high processing speeds and low solvent retention is ideal when using inline print and lamination

- Loctite Liofol water-based wet bond adhesive systems, which



- Loctite Liofol primers—water-based, solvent-based or 100% solid primers—improve adhesion of coatings and adhesives to films or foil
- Loctite Liofol coldseal lacquers are the highest speed solution for sealing horizontal form, fill and seal packaging as well as for temperature-sensitive filling goods. Our cold seal offer is complemented by a range of release lacquers.

360° Product and Service Expertise

We offer the packaging industry with unique 360° product and service expertise comprising product development, on-and-off-site support, equipment solutions, technical training offers and networking events. Whatever be the substrate, our broad range of solutions improve our customers' production efficiency, deliver the highest performance and reliability, and meet their ambitious health and safety targets; thereby, creating competitive advantages for them.

Product Development

At Henkel, we have established dedicated product development teams that serve the various sectors of the food packaging market. The main task of our groups is the development of new products, the maintenance and adaptation of existing products and the control of raw materials.

Our product development also supports the Technical Customer Service and Sales with expert knowledge and helps customers with specific questions related to product properties and food safe packaging.

Sustainable Innovations

Henkel is highly committed to sustainability. As one of the leaders in this area, we aim to create new sustainable solutions along the entire value chain. Henkel's sustainability strategy for 2030 is to achieve more with less. For us



this means using less raw materials while facing the increasing demand for limited natural resources along with maintaining the highest quality standards for packaging operations. Along with this commitment, we support our customers in achieving their sustainability goals. Arising from this responsibility, we have developed the Henkel innovation process. We target joint developments throughout the Procurement & Supplier Management, Research & Development, and Technical Customer Service.

Customer Training

Our adhesive experts have developed special training programs in order to make our customers familiar with packaging-related topics. This knowledge transfer contributes greatly to the quality, reliability and efficiency of their production processes.

Learning by doing! All of our training is based on the principle of learning by doing; thereby, being able to internalize the theoretical



knowledge and using it optimally after the training. Henkel Flexible Packaging Academy in Mumbai with the Indian Institute of Packaging (IIP), as Knowledge Partner offers a one-of-a-kind learning opportunity to enhance skill-sets of workforce in Flexible Packaging. The certified training program delivers the training through “Learning by Doing” principle by combining essential theoretical knowledge with hands-on practical training on Lamination Techniques, Adhesive Selection and Handling, Curing Mechanisms, Troubleshooting, Web Handling, Food Safety, etc.

Technical Service/On-Site Support

Our in-house experts visit facilities of our customers in order to provide them with the best possible consultancy on packaging-related issues and to optimize their processes. The services include process analytics and process optimization, evaluation and resolution of production issues, consulting on quality control, setup of migration measuring systems, production hygiene analysis and monitoring, to name a few.

Besides this, the premium section of Henkel’s packaging portal includes expert knowledge on food safe packaging. Member of this portal get free access to videos of our food safety experts, participate in interactive webinars, or download various whitepapers and presentations. Our goal is to help our customer become more food safe in their processes.

Toxicological Assessments

The Toxicology team, which consists of certified toxicologists and product safety assistants, performs risk assessments and safety evaluations of raw materials and end products, including those intended to be used as food contact materials.

Within Henkel there is always a close interaction and teamwork between different departments, for

example Product Safety, Technical Customer Service, Product Development, Toxicology, Microbiology and Analytics. This teamwork guarantees that food safe packaging aspects are discussed and robust data and information is available, based on which Toxicology conducts risk assessments according to state-of-the-art scientific principles. If necessary, Henkel toxicologists contract and monitor additional toxicological studies at external laboratories.

Investigating toxicological properties of substances and formulations, the search for toxicological data and conducting quantitative structure activity relationship analyses (QSAR) are only few examples of the large service portfolio that the toxicological department offers. The key objective is that no risk to human health originates from Henkel’s food contact materials.

Analytical Tests

Our services cover a broad spectrum of different analyses, investigations and test methods, which are continuously expanded with modern analytical equipment and state-of-the-art methods. Our service portfolio includes:

- Analysis of raw materials/finished goods in the field of adhesives and surface treatment
- Organic and inorganic trace analysis in food packaging
- Formulation reconstruction of technical and brand products
- Structure elucidation of unknown compounds via chromatographic and spectroscopic techniques
- Development and validation of analytical test methods
- Surface and interface analysis for product efficacy trials
- Investigations on identity and purity of chemicals (REACH)
- Determination of physical and chemical substance data
- Analytical services according to GMP and GLP guidelines

Product Safety / Regulatory Requirements

At Henkel, our goal is to be compliant with all regulations relating to the international marketing of our products. We help our customers as well as our Marketing, Manufacturing and R&D departments to be fully informed about health, safety and environmental matters relating to our products and raw materials.

Within our centers of expertise, we have regulatory experts with the necessary knowledge. The main activities of these experts include consultancy, monitoring of legislation, creation of food contact declarations and data sheet, and disseminating communication on product safety to maintain the highest possible information flow on food safe packaging.

Benefit from our market leading knowledge and innovation

Packaging adhesives are used in a wide range of industries. Henkel does not only offer a full portfolio of adhesive solutions for different packaging applications, but also related services ranging from on-site support to special customer training. As a solution provider, Henkel equips its customers with expert knowledge and latest developments on packaging operations. With more than 40 years of experience in laminating adhesives, we understand the needs of the flexible film converting industry and provide solutions for all end use applications. We constantly optimize our adhesive portfolio to further improve sustainability, safety, productivity and processing.

To benefit from our market leading knowledge and innovation power on food safety, please visit www.henkel.com/foodsafety or send a mail to Jayachandran.nair@henkel.com.

IFCA News

The 51st Annual General Meeting of IFCA was held at Chembur Gymkhana on September 30, 2016.

The President, Mr Suresh Gupta welcomed the Members to the AGM.



Mr Suresh Gupta addressing the Members



Members discussing points of the agenda



Mr Gupta explaining certain things



Its Mr Chandrasekhar's turn to explain



Discussions continue standing

Upcoming Events

10th Plastivision India 2017

19 – 23 January 2017
Mumbai Exhibition Centre,
Mumbai

Label Expo India 2016

17-20, November 2016
India Expo Centre
Greater Noida, Delhi (NCR)

International PackTech India and FoodPex India & Drink Technology India

Dec 15 -17, 2016,
Hall No 1,
Bombay Exhibition Centre,
Goregaon (East), Mumbai - 400 063

India International Dairy Expo (IIIDE 2017)

February 16 – 18, 2017
Mumbai Exhibition Centre
Mumbai,
Koeln Messe Trade Fairs

Exclusive Packaging Expo For Vietnam

February, 22 - 24, 2017
SECC Ho Chi Minh City | Vietnam
Smart Expos & Fairs India Pvt Ltd

IESS 2017 Exhibition

16-18 March 201, Chennai,
EEPC India, under the aegis of
Ministry of Commerce & Industry
Government of India

PackPlus South 2017

7-10 April 2017
BIEC Bengaluru,
Print-Packaging.com Pvt. Ltd

Pharma Pro & Pack Expo 2016

April 27-29, 2016
Mumbai Exhibition Centre, Mumbai

Interpack 2017

International Packaging Fair
4-10 May 2017
Dusseldorf Exhibition Centre,
Dusseldorf, Germany
Tel: 49(0) 211/4560-01
E-mail: info@messe-duesseldorf.de

Exclusive Packaging Expo For Myanmar

May 5 - 7, 2017
Tatmadaw Hall, Yangon, Myanmar
Smart Expos & Fairs India Pvt Ltd

Exclusive Packaging Expo For Kenya

June 8 - 10, 2016

KICC, Nairobi, Kenya
Smart Expos & Fairs India Pvt Ltd

Compack Chennai

22-24 Jun 2017
Chennai Trade Centre, Chennai
Smart Expos & Fairs India Pvt Ltd

PackPlus South 2017

3 - 6 August 2017
Pragati Maidan, New Delhi
Print-Packaging.com Pvt. Ltd

Pack Print International 2017

20 – 23 September 2017
Bangkok, Thailand.
Messe Düsseldorf Asia Pte Ltd

Intelpack-2017

Foodtek 2017

PharmaPack 2017

26 - 28 September 2017
Mumbai Exhibition Centre, Mumbai
Intel Trade Fairs & Expositions
Tel: +91-22-28803977/78
E-mail: info@intelepco.com

Middle East Packaging Show

27-28 September 2017
Dubai Exhibition Centre
UAE, Fleming Gulf

For IFCA Membership and for Advertising in IFCA Newsletter, please contact Secretariat

I would like to become a member of IFCA / receive IFCA Newsletter on a regular basis.



IFCA News

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Contact: Mr. R. Senguttuvan at r.senguttuvan@itc.in or +91-9840984033 (Mobile)

Mr. Amit Shah at amit.shah@itc.in or + 91-9840197861 (Mobile)